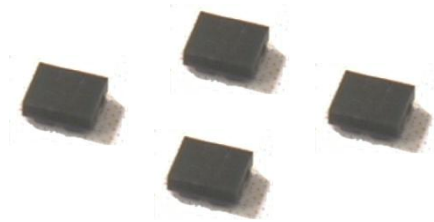
Data Sheet of SAW Components

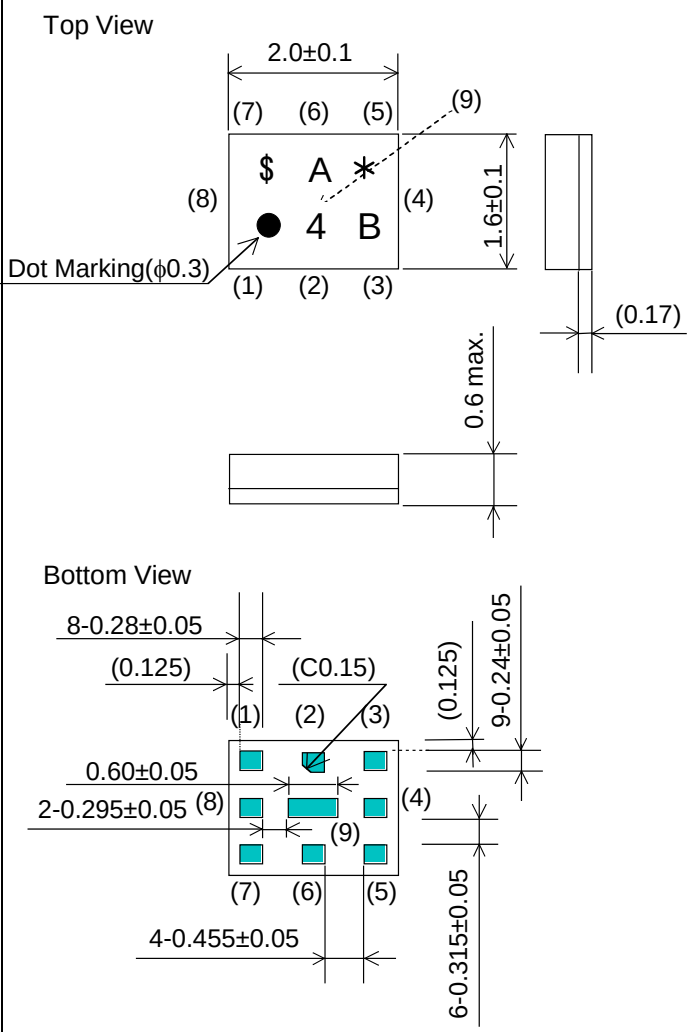


Note : Murata SAW Component is applicable for Cellular /Cordless phone (Terminal) relevant market only.
Please also read caution at the end of this document.

SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [Tx →ANT]

■ Package Dimensions



Marking: Laser Printing
*: EIAJ Code
(Refer to the table 1)
$: Date Code
(Refer to the table 2)
(3) : Tx
(1)(8) : Rx
(6) : Ant
Others : Ground

Unit : mm

■ Target Specification

Item				Specification		
				-10 to 85°C	25±2°C	typ.
Nominal Center Frequency(fc)				1880MHz		
Insertion Loss						
(1852.4 to 1907.6MHz)*1				2.4 dB_{INT} max.	2.2 dB_{INT} max.	2.0 dB_{INT}
(1851.25 to 1908.75MHz)*2				2.5 dB_{INT} max.	2.3 dB_{INT} max.	2.1 dB_{INT}
Absolute Attenuation						
1)	30	to	728 MHz	30 dB min.	30 dB min.	44 dB
2)	728	to	764 MHz	38 dB min.	38 dB min.	43 dB
3)	869	to	894 MHz	36 dB min.	36 dB min.	41 dB
4)	1565.42	to	1573.374 MHz	40 dB min.	40 dB min.	46 dB
5)	1573.374	to	1577.466 MHz	40 dB min.	40 dB min.	47 dB
6)	1577.466	to	1585.42 MHz	40 dB min.	40 dB min.	47 dB
7)	1597.5515	to	1605.886 MHz	35 dB min.	40 dB min.	46 dB
8)	1605.886	to	1680 MHz	30 dB min.	30 dB min.	36 dB
9)	1932.4	to	1987.6 MHz*1	36 dB_{INT} min.	38 dB_{INT} min.	48 dB_{INT}
10)	1931.25	to	1988.75 MHz*2	33 dB_{INT} min.	37 dB_{INT} min.	47 dB_{INT}
11)	2010	to	2025 MHz	30 dB min.	30 dB min.	47 dB
12)	2110	to	2155 MHz	25 dB min.	25 dB min.	37 dB
13)	2400	to	2500 MHz	15 dB min.	15 dB min.	20 dB
14)	3690	to	3830 MHz	10 dB min.	10 dB min.	19 dB
15)	5150	to	5350 MHz	5 dB min.	5 dB min.	10 dB
16)	5540	to	5860 MHz	5 dB min.	5 dB min.	8 dB
17)	7390	to	7650 MHz	5 dB min.	5 dB min.	8 dB
Ripple Deviation any 5MHz						
(1850.48 to 1909.52MHz)				1.8 dB max.	1.0 dB max.	0.4 dB
VSWR						
1850.48 to 1909.52MHz (Tx)				2.2 max.	2.0 max.	1.7
1850.48 to 1909.52MHz (ANT)				2.2 max.	2.0 max.	1.5
ANT Port Matching Impedance (nominal)				50Ω// 3.0nH(ideal)		
Tx Port Matching Impedance (nominal)				50Ω		
Rx Port Matching Impedance (nominal)				100Ω// 18 nH(ideal)		
Input Signal Level				0.8W(+29dBm), 5000 hours(50℃) at WCDMA/NCDMA Modulation		

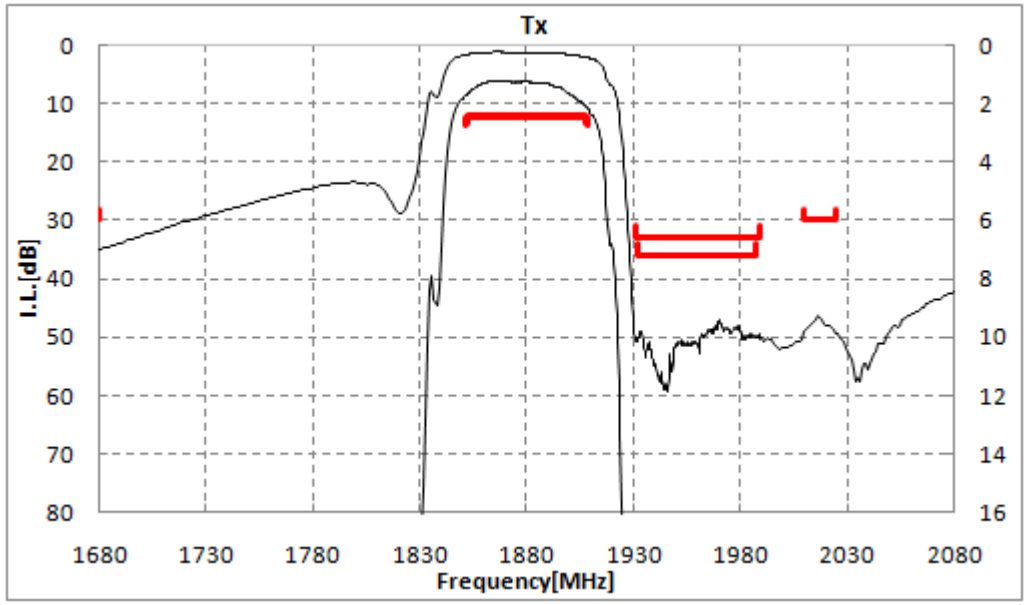
*1 Integration calculation (dB_{INT}): WCDMA modulation (3.84MHz)
*2 Integration calculation (dB_{INT}): NCDMA modulation (1.23MHz)

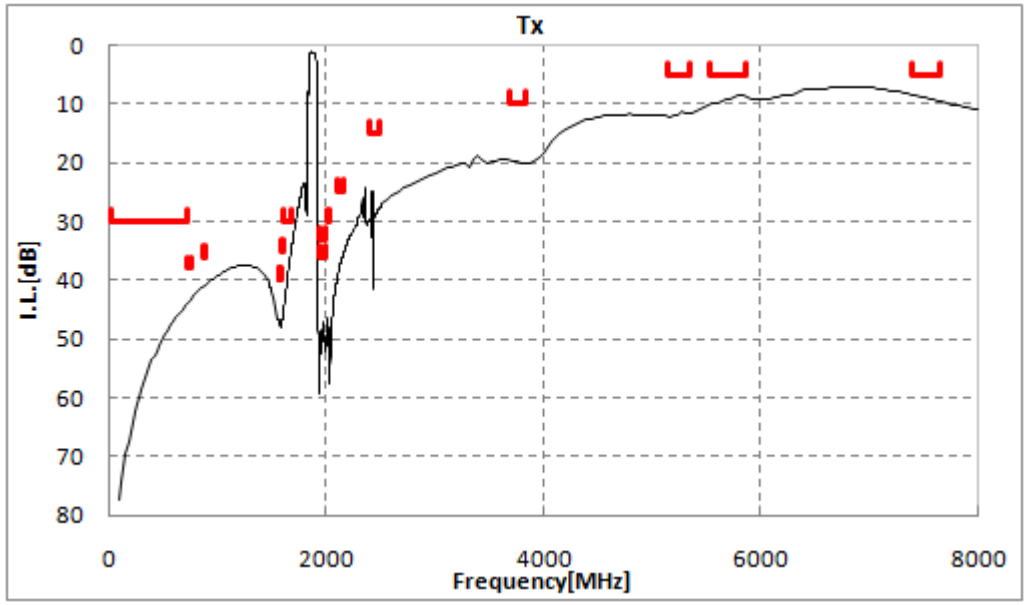
$$dB_{INT} = 10\log\left[\frac{\sum_{n=2}^{N}\left[\frac{\left(10^{(Loss(f_{n-1})/10)}+10^{(Loss(f_n)/10)}\right)}{2}\times\left(F_n-F_{n-1}\right)\right]}{F_N-F_1}\right]$$

SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [Tx→ANT]

Frequency Performance

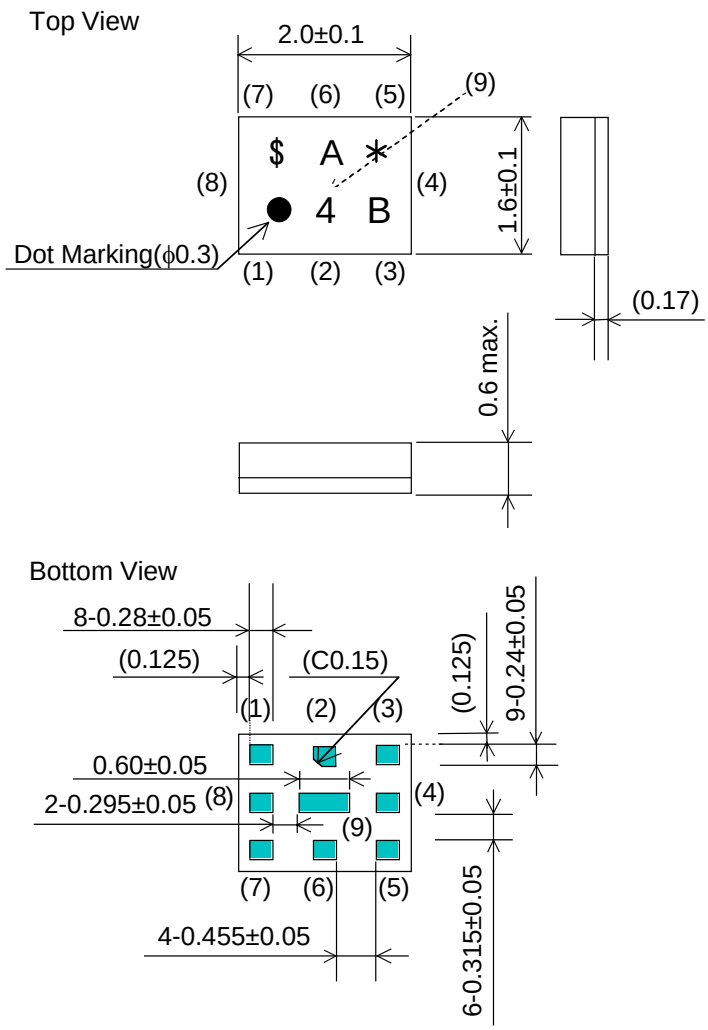




SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [ANT→Rx]

■ Package Dimensions



Marking: Laser Printing
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(Refer to the table 1)
$: Date Code
(Refer to the table 2)
(3) : Tx
(1)(8) : Rx
(6) : Ant
Others : Ground

Unit : mm

■ Target Specification

Item	Specification		
	-10 to 85°C	25±2°C	typ.
Nominal Center Frequency(fc)	1960MHz		
Insertion Loss			
(1930 to 1990MHz)	4.7 dB max.	4.6 dB max.	3.0 dB
(1932.4 to 1987.6MHz)*1	3.6 dB_{INT} max.	3.0 dB_{INT} max.	2.5 dB_{INT}
(1931.25 to 1988.75Hz)*2	4.0 dB_{INT} max.	3.4 dB_{INT} max.	2.7 dB_{INT}
Absolute Attenuation			
1) 30 to 1850 MHz	20 dB min.	20 dB min.	44 dB
2) 1765 to 1835 MHz	25 dB min.	25 dB min.	52 dB
3) 1852.4 to 1907.6 MHz*1	48 dB_{INT} min.	49 dB_{INT} min.	55 dB_{INT}
4) 1851.25 to 1908.75 MHz*2	47 dB_{INT} min.	46 dB_{INT} min.	55 dB_{INT}
5) 2005 to 2050 MHz	3 dB min.	5 dB min.	15 dB
6) 2050 to 2075 MHz	25 dB min.	25 dB min.	38 dB
7) 2400 to 2484 MHz	30 dB min.	30 dB min.	52 dB
8) 2810 to 2910 MHz	25 dB min.	25 dB min.	55 dB
9) 3775 to 3905 MHz	25 dB min.	25 dB min.	64 dB
10) 5625 to 5815 MHz	25 dB min.	25 dB min.	58 dB
Ripple Deviation any 5MHz (1930.48 to 1989.52MHz)	4.8 dB max.	1.8 dB max.	0.9 dB
Amplitude Balance (1930.48 to 1989.52MHz)	2.0 dB max.	2.0 dB max.	1.0 dB
Phase Balance (1930.48 to 1989.52MHz)	180±20 deg.max.	180±20 deg.max.	180+15 deg.
VSWR			
1930.48 to 1989.52MHz (ANT)	2.2 max.	2.0 max.	1.5
1930.48 to 1989.52MHz (Rx)	2.1 max.	1.9 max.	1.5
ANT Port Matching Impedance (nominal)	50Ω// 3.0 nH(ideal)		
Tx Port Matching Impedance (nominal)	50Ω		
Rx Port Matching Impedance (nominal)	100Ω// 18nH(ideal)		

*1 Integration calculation (dB_{INT}): WCDMA modulation (3.84MHz)
*2 Integration calculation (dB_{INT}): NCDMA modulation (1.23MHz)

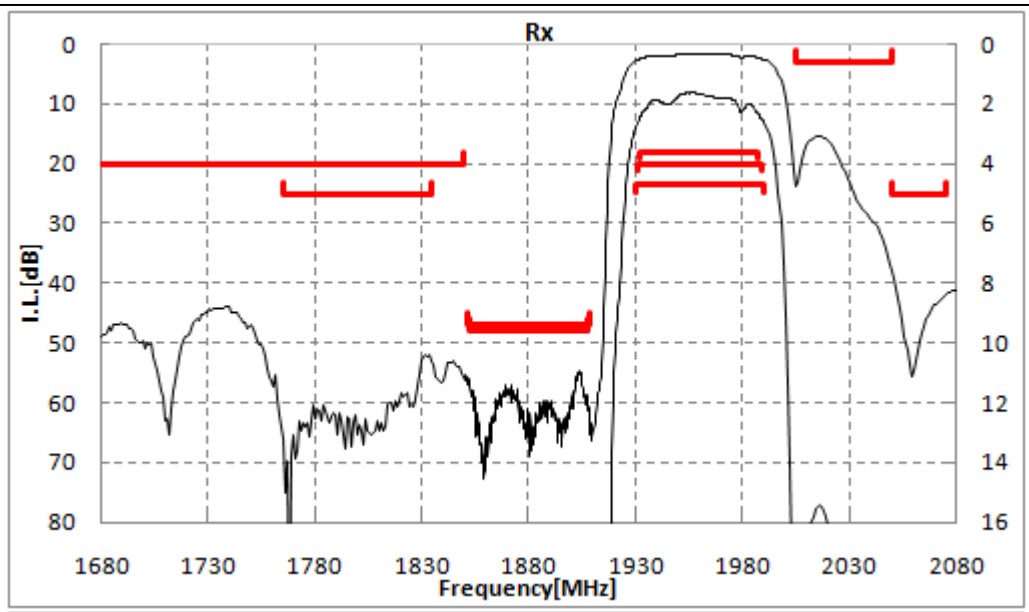
$$dB_{INT} = 10\log\left[\frac{\sum_{n=2}^{N}\left[\frac{\left(10^{(Loss(f_{n-1})/10)}+10^{(Loss(f_n)/10)}\right)}{2}\times(F_n-F_{n-1})\right]}{F_N-F_1}\right]$$

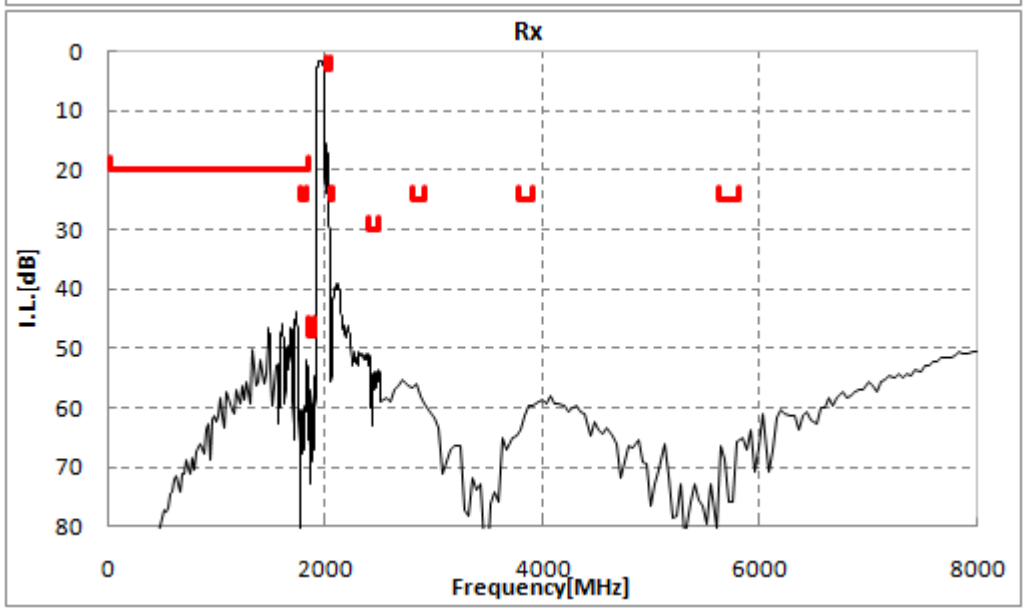
*3 Amplitude Balance: 20 log $|S_{21}|$ – 20 log $|S_{31}|$
*4 Phase Balance: Phase (S_{21}) – Phase (S_{31})

SAW DPX for WCDMA Band2/N-CDMA BC1

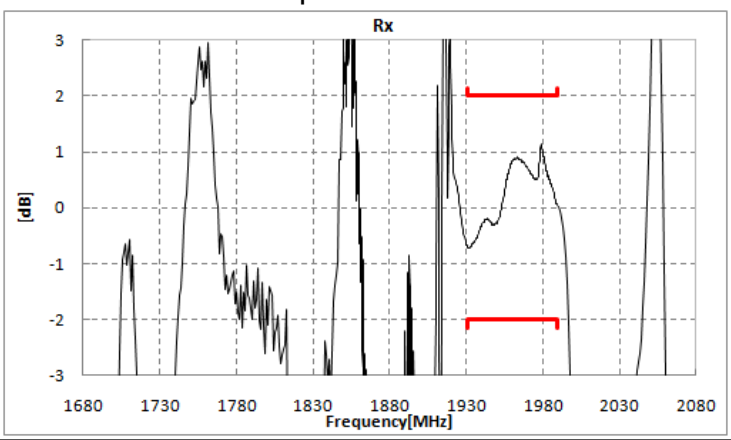
Murata part number :SAYRF1G88CA0B0A [ANT→Rx]

Frequency Performance

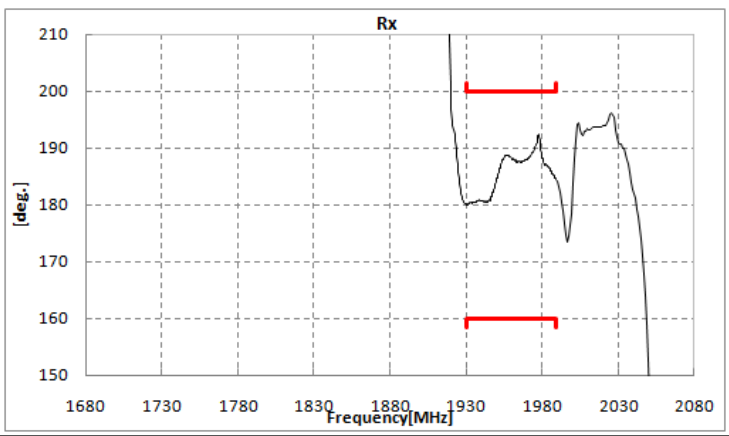




Amplitude Balance



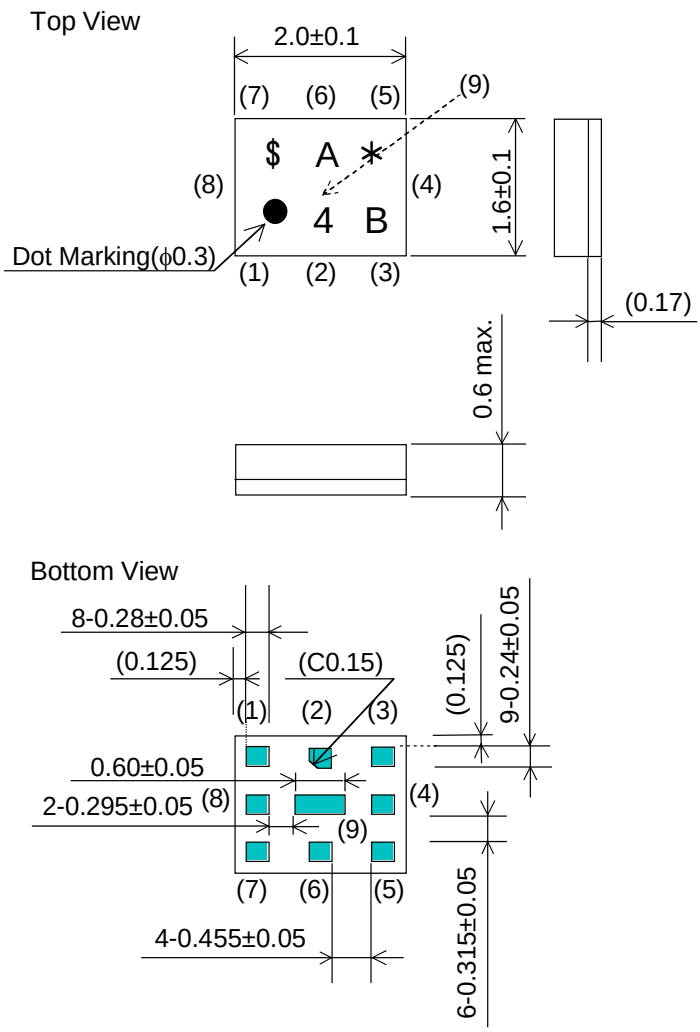
Phase Balance



SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [Tx→Rx]

■ Package Dimensions



Marking: Laser Printing
* : EIAJ Code
(Refer to the table 1)
$: Date Code
(Refer to the table 2)
(3) : Tx
(1)(8) : Rx
(6) : Ant
Others : Ground

Unit : mm

■ Target Specification

Item					Specification		
					-10 to 85°C	25±2°C	typ.
Isolation (DMI)							
1)	1574	to	1577	MHz	40 dB min.	40 dB min.	70 dB
2)	1852.4	to	1907.6	MHz*1	54 dB_{INT} min.	54 dB_{INT} min.	59 dB_{INT}
3)	1851.25	to	1908.75	MHz*2	53 dB_{INT} min.	53 dB_{INT} min.	58 dB_{INT}
4)	1932.4	to	1987.6	MHz*1	45 dB_{INT} min.	45 dB_{INT} min.	51 dB_{INT}
5)	1931.25	to	1988.75	MHz*2	42 dB_{INT} min.	42 dB_{INT} min.	51 dB_{INT}
6)	3700	to	3820	MHz	20 dB min.	20 dB min.	57 dB
7)	5550	to	5850	MHz	20 dB min.	20 dB min.	54 dB
Isolation (CMI)							
1)	1852.4	to	1907.6	MHz*1	46 dB_{INT} min.	46 dB_{INT} min.	51 dB_{INT}
2)	1851.25	to	1908.75	MHz*2	46 dB_{INT} min.	46 dB_{INT} min.	51 dB_{INT}

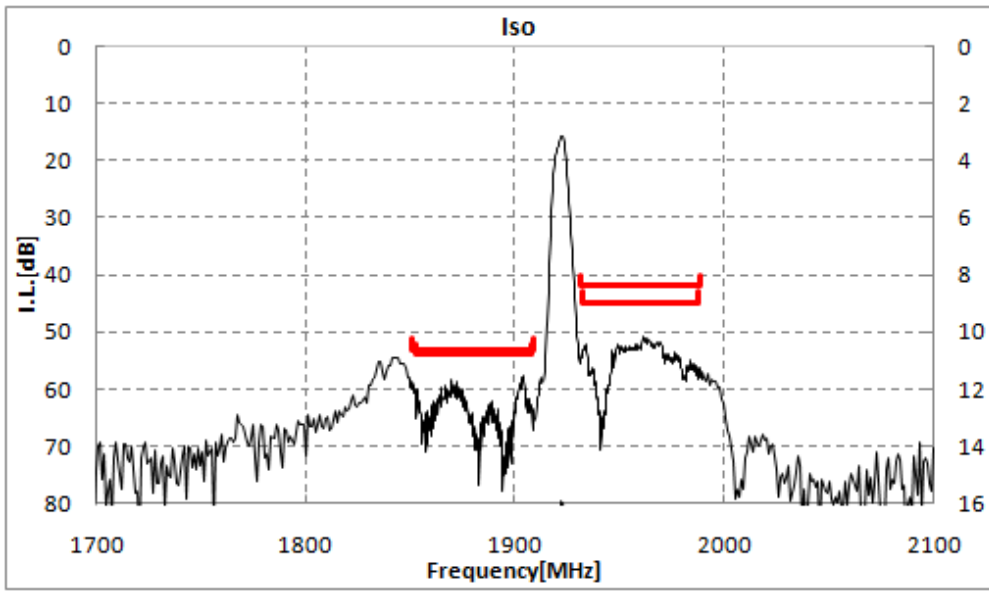
*1 Integration calculation (dB_{INT}): WCDMA modulation (3.84MHz)
*2 Integration calculation (dB_{INT}): NCDMA modulation (1.23MHz)

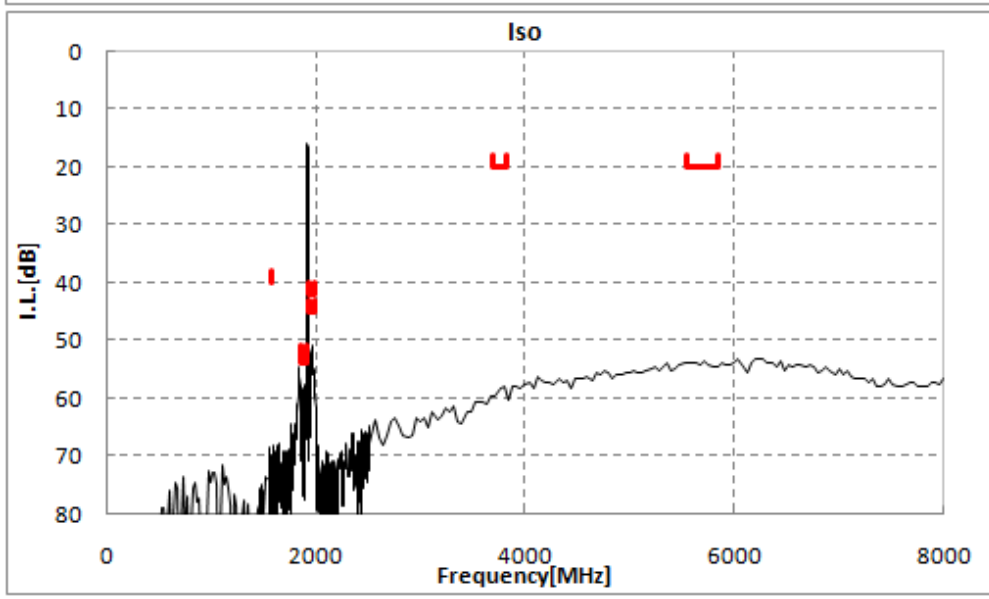
$$dB_{INT} = 10\log\left[\frac{\sum_{n=2}^{N}\left[\frac{\left(10^{(Loss(f_{n-1})/10)}+10^{(Loss(f_n)/10)}\right)}{2}\times\left(F_n-F_{n-1}\right)\right]}{F_N-F_1}\right]$$

SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A [Tx→Rx]

Frequency Performance

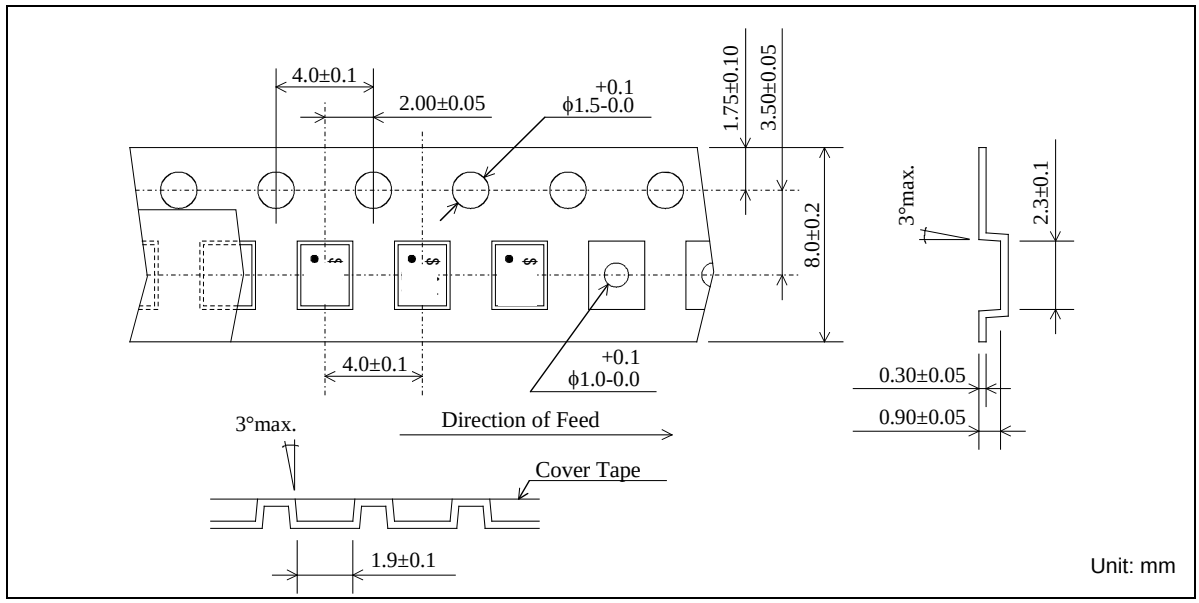




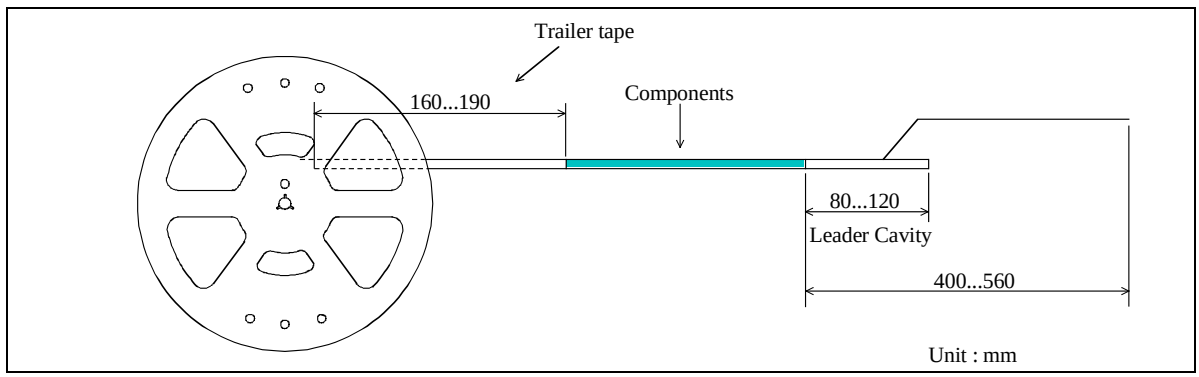
SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A

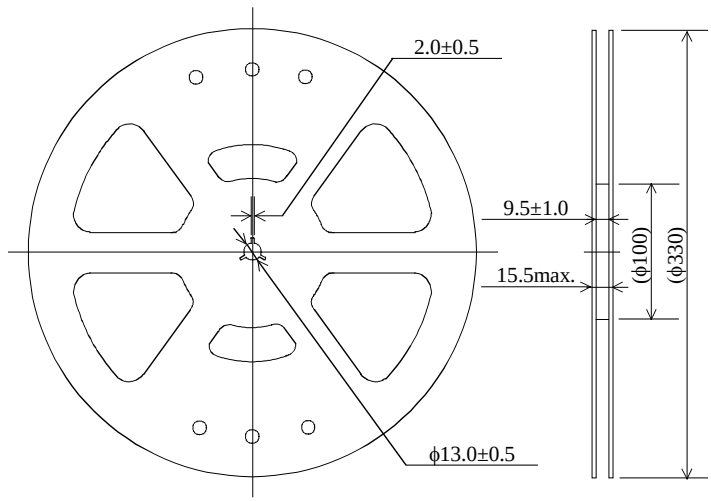
■ Dimensions of Carrier Tape



■ Dimensions of Tape



■ Dimensions of Reel



Unit: mm

SAYRF1G88CA0B0AR00 … 10000pcs/reel

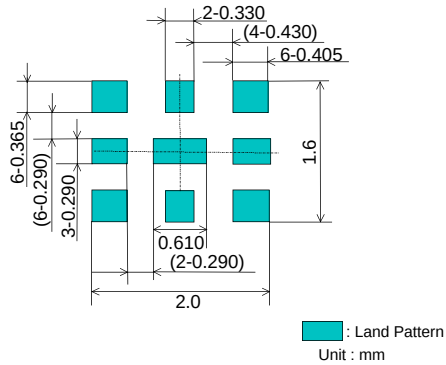
SAYRF1G88CA0B0AR05 … 5000pcs/reel

SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A

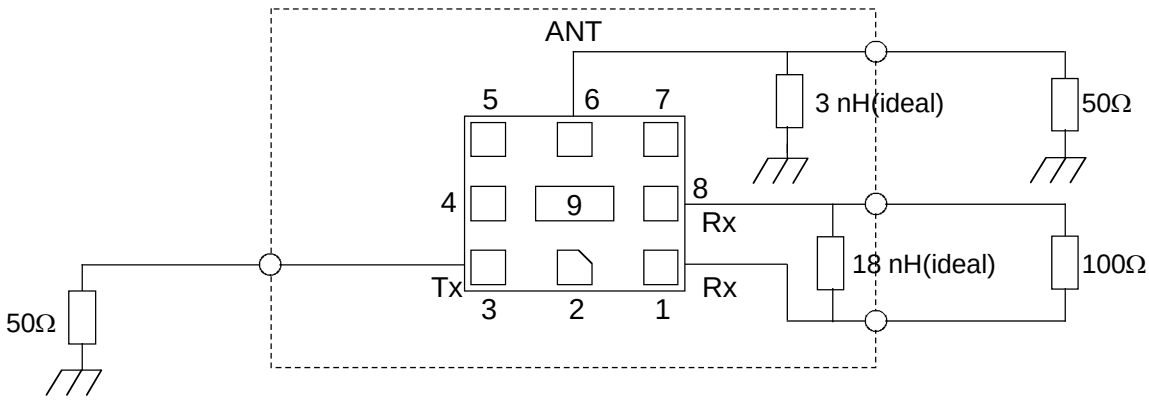
■ Recommended Land Pattern

Top View



■ Test Circuit

Bottom View



SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A

■ RoHS Compliance

This component is compliant with RoHS directive.
This component was always RoHS compliant from the first date of manufacture.

・Caution - Limitation of Applications
This product is intended for the following applications only; however, please do not use this product in these applications where defects might directly cause damage to a third party's life, body or property.

a. Mobile Telephone
b. Cordless phone (except for Automotive use)
c. PC (Including Notebook PC, Netbook PC, Tablet)
d. Game
e. Camera (except for Business/security use)
f. Set Top Box
g. Electronic dictionary
h. Digital audio equipment

This catalog is for reference only and not an official product specification document, therefore, please review and approve our official product specification before ordering this product.

■ Marking code

Table 1 ＊: EIAJ Code

This rule of code is applied repeatedly every four year.

2009 2013 2017	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	A	B	C	D	E	F	G	H	J	K	L	M
2010 2014 2018	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	N	P	Q	R	S	T	U	V	W	X	Y	Z
2011 2015 2019	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	a	b	c̄	d	e	f	g	h	j	k	l	m
2012 2016 2020	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	n	p	q	r	s	t	u	v	w	x	y	z

Table 2 $: Date Code

date	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
code	A	B	C	D	E	F	G	H	J	K
date	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th
code	L	M	N	P	Q	R	S	T	U	V
date	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
code	W	X	Y	Z	a	b	c̄	d	e	f	g

SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A

■Important notice

PLEASE READ THIS NOTICE BEFORE USING OUR PRODUCTS.

Please make sure that your product has been evaluated and confirmed from the aspect of the fitness for the specifications of our product when our product is mounted to your product.
All the items and parameters in this product specification/datasheet/catalog have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment specified in this specification. You are requested not to use our product deviating from the condition and the environment specified in this specification.
Please note that the only warranty that we provide regarding the products is its conformance to the specifications provided herein. Accordingly, we shall not be responsible for any defects in products or equipment incorporating such products, which are caused under the conditions other than those specified in this specification.

WE HEREBY DISCLAIMS ALL OTHER WARRANTIES REGARDING THE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

The product shall not be used in any application listed below which requires especially high reliability for the prevention of such defect as may directly cause damage to the third party's life, body or property. You acknowledge and agree that, if you use our products in such applications, we will not be responsible for any failure to meet such requirements. Furthermore, YOU AGREE TO INDEMNIFY AND DEFEND US AND OUR AFFILIATES AGAINST ALL CLAIMS, DAMAGES, COSTS, AND EXPENSES THAT MAY BE INCURRED, INCLUDING WITHOUT LIMITATION, ATTORNEY FEES AND COSTS, DUE TO THE USE OF OUR PRODUCTS IN SUCH APPLICATIONS.

- Aircraft equipment.
- Aerospace equipment
- Undersea equipment.
- Power plant control equipment - Medical equipment.
- Transportation equipment (vehicles, trains, ships, elevator, etc.).
- Traffic signal equipment.
- Disaster prevention / crime prevention equipment.
- Burning / explosion control equipment
- Application of similar complexity and/ or reliability requirements to the applications listed in the above.

We expressly prohibit you from analyzing, breaking, Reverse-Engineering, remodeling altering, and reproducing our product. Our product cannot be used for the product which is prohibited from being manufactured, used, and sold by the regulations and laws in the world.

We do not warrant or represent that any license, either express or implied, is granted under any our patent right, copyright, mask work right, or our other intellectual property right relating to any combination, machine, or process in which our products or services are used. Information provided by us regarding third-party products or services does not constitute a license from us to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from us under our patents or other intellectual property.

Please do not use our products, our technical information and other data provided by us for the purpose of developing of mass-destruction weapons and the purpose of military use.
Moreover, you must comply with "foreign exchange and foreign trade law", the "U.S. export administration regulations", etc.

Please note that we may discontinue the manufacture of our products, due to reasons such as end of supply of materials and/or components from our suppliers.

SAW DPX for WCDMA Band2/N-CDMA BC1

Murata part number :SAYRF1G88CA0B0A

Customer acknowledges that Murata will, if requested by you, conduct a failure analysis for defect or alleged defect of Products only at the level required for consumer grade Products, and thus such analysis may not always be available or be in accordance with your request (for example, in cases where the defect was caused by components in Products supplied to Murata from a third party).

The product shall not be used in any other application/model than that of claimed to Murata.

Customer acknowledges that engineering samples may deviate from specifications and may contain defects due to their development status.
We reject any liability or product warranty for engineering samples.
In particular we disclaim liability for damages caused by

- the use of the engineering sample other than for evaluation purposes, particularly the installation or integration in the product to be sold by you,
- deviation or lapse in function of engineering sample,
- improper use of engineering samples.

We disclaims any liability for consequential and incidental damages.

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